

# ENVIRONMENTAL NEWS

The Newsletter of the Environmental Programs at Middlebury

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## Dear Alumni and Friends:



Top-bottom: Construction work in progress on The Hillcrest Environmental Center; May Boeve and Jamie Henn are recognized as finalists for the Vermont Teddy Bear Student Citizen Award; "Middlebury Midnight Mayhem" serves as a pre-dawn launch for the Step It Up National Day of Climate Action on April 14, 2007.

This past year has been marked by the rapidly-approaching completion of the new Hillcrest Environmental Center, from final planning, deconstruction (and recycling of materials), and renovation, to, as we write, landscaping of the courtyard. The new center incorporates numerous sustainable features, from a state-of-the-art heat pump for climate control and daylighting schemes that minimize electricity consumption to the extensive use of locally-derived materials. If funding were to suddenly appear, two items on our wish list for Hillcrest are photovoltaic and energy monitoring systems. We envision that Hillcrest will provide a new example for bringing Vermont historic buildings up to the needed sustainability standards. With Hillcrest, Middlebury will for the first time test the feasibility of third-party certification for its sustainable building practices by registering for LEED certification (Leadership in Energy and Environmental Design). The new center will house faculty and staff members of the Environmental Program—including the Dean of Environmental Affairs and the Environmental Journalism Fellowship, Sustainable Campus, and Environmental Civic Engagement programs—bringing members of Middlebury's environmental programs under one roof. We are very excited about our new home and hope you can join us over Homecoming Weekend, October 26–28, 2007 for the Center dedication.

This past year also marked new forays into international environmental studies with the development of internships with The Nature Conservancy in China and Mexico (see page 5), and the appointment of Jon Isham to the Luce Professorship in International Environmental Economics. During this three-year term, Jon will develop strategies for partnering with leaders in global civil society working to build a more sustainable future. For details about his senior seminar on global civil society, see page 10. We are also exploring with our colleagues at the Monterey Institute potential Winter Term courses and a collaborative Middlebury-Monterey MA program.

The Howard E. Woodin Environmental Studies Colloquium series featured alumni presentations on open-source media and the

environment by Michael Silberman '02 and the application of GIS to marine ecological conservation by Bryan Costa '03.5; a presentation by professors John Elder, Jeff Munroe, Amy Trubeck (UVM), and Lee Corbett '07 on the terroir of Vermont maple syrup—a project that exemplifies interdisciplinary environmental studies; and presentations by federal agency scientists on sustainability (Ruth McWilliams, US Forest Service) and the role of the federal government in conservation (Kathy Callahan, EPA). As always, the colloquium provided a venue to connect with alums, community members and colleagues at other institutions, to share environmental career ideas with students, to build a sense of community within the ES Program, and to provide a forum for discussing interdisciplinary issues.

As you'll see in the following pages, ES majors continue to do great work in the classroom, in research venues, and in various community projects. Two environmental studies seniors were just awarded prestigious Watson Fellowships—Dalal Al-Abdulrazzak, an ES-Conservation Biology major and Carolyn Barnwell, an ES-Human Ecology major. Carolyn's Watson award comes on the heels of another major award for undergraduate research by the National Association of Student Anthropologists for her thesis research. And, excitingly, a student-led proposal for carbon neutrality was just endorsed by the Board of Trustees (see page 4).

On a closing note, in recognition of the important role that environmental studies and sustainability play on the Middlebury campus, Nan Jenks-Jay was recently named Dean of Environmental Affairs. And finally, one of the practices that helps keep our program vibrant and sustainable is the planned rotation of the directorship among the natural sciences, social sciences and humanities. So as you read this, outgoing director and geologist Peter Ryan is passing the baton to political scientist Chris Klyza, who will serve a one-year term before yielding the reigns to Middlebury's environmental historian Kathy Morse.

Nan Jenks-Jay  
Dean of Environmental Affairs

Peter Crowley Ryan  
Director, Environmental Studies Program

## Alumni News

**Sue Johns Paulsen '69**, the first (and, in her class, only) environmental studies major, fondly recalls the outdoor labs at Middlebury, “which seemed more like fun outings to me, especially week-ends at High Pond in Brandon with Dr Woodin.” Sue taught junior high students at Peacham Academy for several years and spent the first Earth Day camping out with her female students at Groton State Park. Later on, she took up internal auditing, was Chief Auditor at the Bank of Vermont, and in 1990, had an Earth Day yard sale to celebrate “leaving the 9–5 work world, simplifying my life, and starting to work with my future husband on turning old and very used houses into unique and reasonably priced homes for people.” She has since returned to teaching at a community college and, most days, bicycles the 3 miles to classes. Sue and her husband travel far and wide by tandem bicycle with their camping gear in a small trailer. She notes, “We share a car. We recycle materials. We have a Victory Garden. We practice conservation of all things. Every day is Earth Day. And we are, on the whole, happy people.”

**Bart Riley '85** (Physics) works with the start-up company A1235 Systems in Watertown, MA. A1235 was founded in 2002 and is developing powerful, safe, and long-lived batteries that could be the future for electric vehicles. The goal for their battery for plug-in hybrid cars is to achieve 155 miles to the gallon and reduce demand for gasoline by 70 percent.

**Tim Battista '91 and Bryan Costa '03.5** work together on NOAA's Biogeography Team, part of NOAA's National Center for Coastal Ocean Science in the Center for Coastal Monitoring and Assessment (CCMA). The goals of the Biogeography Team are to develop knowledge and products on the distribution and ecology of living marine resources throughout the Nation's estuarine, coastal and marine environments; and to help resource managers, scientists and the public make informed decisions in support of ecosystem-based management. Bryan gave a talk as part of the Spring 2007 Woodin Colloquium series that focused on the use of GIS and remote sensing in his work.

**Andrea Hamre '05** is currently working at the Dept. of Justice in Washington DC and also actively exploring opportunities at the EPA and various federal agencies, as well as many NGOs, with the hope of transitioning into a position more directly focused on environmental protection. She enjoyed seeing Bill McKibben—Middlebury's Environmental Scholar in Residence—through her involvement in the planning of DC's April 14th Step It Up event as part of the National Day of Climate Action.

**Emily Owen '05** received a fellowship from The Wild Gift, a Sun Valley, Idaho based nonprofit organization that supports emerging leaders, ages 21–30, launch projects that advance wildlands stewardship and the development of sustainable communities and lifestyles. Her project focuses on Conservation Initiative Consulting in the Nahuelbuta Coastal Range of Chile, where she is working with the Contulmo Landowners Network to form a cluster of private protected areas and, in the process, develop a replicable, community-based private conservation model.

## Notable News

### ■ New Deanship in Environmental Affairs

Nan Jenks-Jay, who has served the College with distinction as director of environmental affairs since 1997, will now assume the role of dean of environmental affairs. This newly created position reflects the College's institutional and academic commitment to the environment, as well as Nan's leadership and expertise in the field. In her new position as dean, Nan will identify environmental opportunities that will benefit the College's undergraduate, graduate, and special programs, including the Language Schools, Schools Abroad, Bread Loaf School of English, Bread Loaf Writers' Conference, and the Monterey Institute of International Studies. She will also play a significant role in the College's upcoming campaign by helping us raise funds to support all of our environmental initiatives.

■ The new **Middlebury Fellowships in Environmental Journalism**, directed by Bill McKibben, will each year take 10 journalists near the start of their careers and help them work through an ambitious reporting project in print, web-based, or radio journalism, from the beginning through publication or broadcast. Fellows will meet together twice during the year, once in the fall on the Middlebury College campus in Vermont, and once in the spring at the Monterey Institute of International Studies, in California. At these meetings professional journalists will help participants plan their reporting and shape their stories. Two of these annual fellowships will be awarded to Middlebury Juniors, who will receive grants for reporting and travel expenses, attend the residency periods, and work with the fellowship staff on their projects over Senior year.

■ **The Sunday Night Group** (SNG), formed by students to reverse the catastrophic effects of global climate change, received a Middlebury College Public Service Leadership Award, marking the first time in the 14-year history of the event that an organization, and not an individual, was so honored. May Boeve and Jamie Henn '07, co-founders of SNG, were also recognized as finalists for the 2006 Vermont Teddy Bear Student Citizen Award at Vermont Campus Compact's annual gala.

■ Leaders in the environmental field who were celebrated with **honorary degrees** at the 2006 and 2007 commencement ceremonies include Alec Webb, President of Shelburne Farms, and James Gustave Speth, who oversees Yale University's graduate and professional school of the environment at the Yale School of Forestry and Environmental Studies.

■ **Senior Class Gift**—The Class of 2007 will be recognized for kicking off The Green Fund. This is an endowed fund that will ensure that the College's environmental initiatives continue in perpetuity.

■ Bill McKibben, Middlebury's Environmental Scholar in Residence, and 6 recent Middlebury graduates launched the **Step it Up 2007** initiative, which coordinated over 1400 events on April 14, 2007. Dubbed National Day of Climate Action, these coordinated events called for Congress to cut carbon emissions by 80% by 2050. See [www.stepitup2007.org](http://www.stepitup2007.org) for more details!



## Faculty Profile

### John Elder

John Elder, College Professor, joined the faculty at Middlebury in 1971. He came to teach modernist, early 20th century literature—the focus of his doctoral research at Yale—though over his tenure at Middlebury and through the experience of living in Vermont, he became more and more drawn to the intersection of literature and the natural world. He became integrally involved with the ES Program, launching one of the Program’s early core courses—Visions of Nature and serving as Director from 1991 to 1994. His connection to the land and environmental issues has only strengthened over time, and this is reflected in his teaching, his writing, his community involvement, and his public activism on climate change and the inadequate response to Hurricane Katrina.

Over his time in Vermont, John became increasingly connected with sustainable forestry, maple sugaring, and the conservation of rural landscapes. He served for 9 years on the board of the Vermont Land Trust, and still serves on the Board of Vermont Family Forests and the Center for Whole Communities in Waitsfield where he is drawn to their environmental and racial justice focus. He notes that serving on these statewide boards has been very formative, highlighting the need to balance rural economies and habitat protection, and inspiring him through the level of the nature/culture discussion that is happening in Vermont.

John’s connection to land and place and local culture can be seen in various aspects of his life. He has brought this into his teaching through writing workshops with a focus on natural history and conservation, through his writings on, and teaching about, 19th century environmental writer

George Perkins Marsh, and the importance he places on connecting students *with nature in nature* as exemplified by the camping and hiking trips he leads with his summer Bread Loaf School of English students.

You can see it in his writing as well—John said “my most important work in terms of helping me broaden my possibilities as a writer was *Reading the Mountains of Home*. It gave me the ability to combine the experience and natural and environmental history of the Green Mountains and the life of my family.” *Frog Run*, of course, details the beginning of his family’s adventures in sugarmaking and also marks a phase in his writing where family stories and memoir format become more prominent. John and his family have been sugarmakers for 9 years, drawn to how sustainable forestry affirms the value of wilderness and biodiversity and connects with rural economy. He has also dabbled a bit with Tuscan olive oil from his sabbatical time in Italy when he was tracing the footsteps of George Perkins Marsh (a Vermonter) for his most recent publication, *Pilgrimage to Vallombrosa*. He has since learned and written about the regionality of both olive oil and maple syrup.

His current work in progress, supported by a Guggenheim Fellowship, focuses on Vermont forests, colored by the reality of climate change, and Hurricane Katrina “as an event that should reshape all of our thinking about climate change and living on earth.”

On his most recent trip back to Louisiana, he viewed the landscape through the Vermont perspective of value adding and how that might translate to Louisiana. He hints that his book will have a “Mardi Gras motif since Mardi Gras and the sugaring season are almost timed together and share common themes of loss, celebration, and renewal.”

As he is realizing more fully how deeply endangered sugaring is to climate change,

he is becoming more keyed into activism and was a prominent participant in “From the Road Less Traveled: Vermonters Walking Toward a Clean Energy Future,” held over the 2006 Labor Day Weekend, and the recent Step it Up events this April. “I very much appreciate Middlebury student leadership in these endeavors, and was proud and grateful to be in the community these students were leading.”

John says he will teach for a “few more years” in the fall at Middlebury and the summer at Bread Loaf. He is excited about making the most of this “last lap,” and “really wants to push the definition of a Middlebury course through challenging formats.” He co-taught a very successful course last fall—Global Environmental Problems with Rich Wolfson (Physics) and David Rosenberg (Political Science). As he puts it, we were “three long time friends who wanted to teach together before we retired.” They focused on three environmental topics—David on oceans, Rich on climate, and John on forests.

Two upcoming new courses include a course on food & agriculture and environmental literature, with discussion sections at the College organic garden. John is finding food and agriculture increasingly central to the environmental movement. The second course will be a seminar with Daniel Brayton (English), focusing on narratives of home and the topographical landscape.

When he retires, he will have been at Middlebury for 36 years. He reflects, “it has gone so fast, changing and new the whole time, and I’m very grateful for the quality of the students, community, environment, and the flexibility I’ve been given as a teacher. I couldn’t imagine a place I was more well suited to.” As for post-retirement plans—“keep writing, more time in the woods, more activism, teaching in different contexts, and spending time with my grandchildren.”



## Sustainability News and Notes

Following are a few of the highlights from the sustainability movie now playing at Middlebury College. For more details contact Jack Byrne, Sustainability Coordinator at 802-443-5043, [jmbyrne@middlebury.edu](mailto:jmbyrne@middlebury.edu) or see <http://www.middlebury.edu/administration/enviro/> for more details!



### Addressing the Climate Change Challenge

#### Greenhouse Gas Inventory and Reporting

The Carbon Reduction Task Group identified the need for a standardized annual inventory and report about Middlebury's emissions of greenhouse gases. Jack Byrne developed a plan for accomplishing the task and hired Jason Kowalski '07 to work with him over the summer. The Middlebury College Greenhouse Gas Emissions Inventory (for the main campus, Bread Loaf and the Snow Bowl) is now in place and is being put to use in numerous ways including the master planning process currently underway.

#### Switching to Biomass Fuel

Over the past two years the Carbon Reduction Task Group has been researching the costs, benefits, and risks of a biomass gasification heating and cooling system. The Trustees approved their recommendation for how to go forward on October 2006. Construction of the \$11 million project will begin this summer with completion expected by Fall 2008. The new system will cut the amount of fuel oil the College burns by 1,000,000 gallons—just over half of its annual consumption. And because wood fuel is “carbon neutral” (the CO<sub>2</sub> released by burning is offset by the CO<sub>2</sub> the trees removed from the atmosphere while growing) the College's carbon emissions will decrease by about 12,500 metric tons (or about 42%) and put us very close to our reduction goal. The task group is currently developing a 3-year contract with Cousineau Forest Products who will work with the College to assure that the chips it supplies come from local sources that practice sustainable forestry.

#### Testing the Feasibility of Locally Grown Biomass

In looking at the options for woodchips for the biomass system one that looks promising is the possibility of growing biomass on farmland in Addison County. We have established a joint effort with Dr. Tim Volk of SUNY-ESF to conduct a pilot project on 10 acres of College land. We will plant 30 different varieties of willow shrubs this spring at a density of about 6,000 per acre. In the fourth year they will be cut and chipped for use in the biomass burner. The regrowth from the willows will be harvested every 3 years for up to 21 years thereafter. The results of the pilot and the lessons learned will be shared with Vermont agricultural landowners and farmers in the region with the hope that they would eventually go into business producing willows for energy.

#### Snow Bowl Carbon Neutrality

The nation's first carbon neutral ski area—that is the assessment of the National Ski Areas Association's technical consultants after reviewing the steps taken by the College to offset all the Snow Bowl's emissions of greenhouse gases. The Snow Bowl offset every pound of CO<sub>2</sub> generated this year to operate the ski area PLUS the CO<sub>2</sub> from the vehicle travel by customers to ski there. Offsets were purchased from Native Energy, a Vermont company, and invested in the development of wind turbine electrical power for the Rosebud Sioux Indian reservation in South Dakota and in a methane digestion project at a family-owned dairy farm in Pennsylvania.

#### Students Purchase Drying Racks and CO<sub>2</sub> Offsets

How can I reduce my ecological footprint while attending Middlebury College? That's a question many students are asking and acting on. Last summer Jack Byrne worked with Bobby Levine '09 and the Center for Campus Activities and Leadership (CCAL) to provide more options: purchase a clothes drying rack and / or carbon offsets for the academic year. Using a \$15 clothes drying rack saves the average student \$29 per year in drying costs and reduces energy usage and CO<sub>2</sub> emissions. Purchasing \$36 worth of carbon offsets from Native Energy results in three tons less CO<sub>2</sub> emitted per student. We had a great response: 66 students purchased drying racks and 64 students purchased CO<sub>2</sub> offsets for the academic year. We will renew these two offers again for the coming year.

#### Carbon Neutrality Commitment

On May 5, 2007, the Middlebury College Board of Trustees approved a plan for the College's Vermont campus to become a carbon neutral institution by 2016. The College plans to achieve carbon neutrality through a combination of efforts, including the 2008 completion of the biomass plant, which will be powered by woodchips; operational adjustments such as energy efficient lighting and facility upgrades; and—after all other economically feasible efforts to reduce carbon have been exhausted—the purchase of carbon offsets. The original proposal for carbon neutrality was brought to the board by student organization MiddShift in February.

## Sustainability News and Notes

### Using Healthier Cleaning and Personal Care Products

What's in the products we use to clean our residence halls, offices and classroom buildings? How might those chemicals affect the health of the custodial staff and the occupants of the College's buildings? Over the past two years, the Sustainability Coordinator and Facilities Services staff have been looking at cleaning products and practices to reduce exposure to chemicals that can harm human health and that perform well. The custodial staff recently tested a number of alternative products and rated their performance in terms of ease of use, cleaning results, and cost effectiveness. Based on these trials, several new green cleaning products have been made part of the College's inventory. INFORM consulted with Middlebury on this initiative.

### RecycleMania: Middlebury Recycling Finishes in Top 6% of National Competitors

For the second year running, Middlebury competed in RecycleMania—a friendly competition amongst colleges and universities to reduce waste and maximize recycling, sponsored by the US Environmental Protection Agency. This year 203 colleges and universities competed (compared to 93 in 2006), and in the New England Small College Athletic Conference (NESCAC), 10 of the 11 schools competed. Over a ten-week period from February to April, each school reported their waste generation and recycling results in seven different categories. Middlebury did well especially considering the huge jump in participation. We placed in the top 6% nationally compared to the top 8% last year. For full results see: [www.middlebury.edu/administration/enviro](http://www.middlebury.edu/administration/enviro).

### Environmental Council Updates

The Environmental Council (EC) focused much of its attention this year in three areas: paper usage, College lands and environmental grants. It also began to look more closely at the issue of vehicle idling.

### Paper Purchasing Policy

After considerable research, consultation, testing and outreach by the Council's Environmentally Preferred Purchasing sub-committee, the EC recommended that the College switch from using 30% post consumer waste (PCW) content to 100% PCW, process chlorine free paper in printers and copiers. It also recommended that the highest content post consumer waste possible be used for all outsourced printing jobs. The policy was forwarded to the President and approved.

### Land Stewardship Initiative

The EC's Lands Committee also culminated a long period of study and consultation regarding stewardship of the College's many land holdings. The EC adopted the Lands Committee recommendations for a stewardship initiative and have forwarded them to the President for review and approval. The recommendations include:

- Implementation of land stewardship guidelines to guide a comprehensive analysis of management activities on College lands.
- Establishment of closer connections between College lands and educational mission, including student and faculty research and class use.
- Development of management plans for all College landholdings.

### Environmental Council Grants

The EC's Environmental Grants sub-committee was busy this year reviewing proposals and awarding funds for projects that will further the College's sustainability mission. Here are a few of the projects funded:

- Development of a walking trail network for the Middlebury College Floodplain Forest Teaching and Research Area.
- Tools and parts for the student-run Bike Repair Shop which will receive abandoned bikes and make them available for students, faculty, and staff to "build their own bike."
- Solar lighting to illuminate the ARTS banner on the Center for Fine Arts building north entrance and for special recycling receptacles for each performance space, to encourage audience members to recycle their programs after the show.

### The Nature Conservancy Internships

Internships with The Nature Conservancy have been made available exclusively to Middlebury College students through generous donors, including Katie Lang Dolan '77 and her husband Peter Dolan, as well as Mark Collins '79 through the The Dillon Fund. Other individuals who have been crucial to making the internships happen through their TNC connections include Harry Drucker '80, Bruce Boyd '79, and Brian McCurdy '03.

#### Internship opportunities include:

- TNC Illinois chapter headquarters in Chicago: Marketing Intern
- Nachusa Grasslands, Illinois: Conservation Intern
- Massachusetts Islands Program, Martha's Vineyard: Conservation Intern
- Eastern New York State chapter: Conservation Intern
- Monterrey/Chihuahuan Desert, Mexico: Conservation Intern (Summer 2007)
- Maya Forest/Yucatan Peninsula, Mexico: Conservation Intern (Summer 2007)
- Kunming, Yunnan, China: Communications and Philanthropy Intern (2) (Summer 2007)

#### Intern Reflections

"This was the perfect immersion into the world of conservation and restoration."—*Kelly Nichols '09*, Nachusa Grasslands

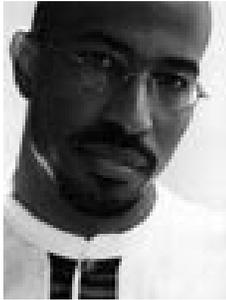
"I think that anyone interested in ecology and fascinated with experimentation would benefit greatly with this experience."

—*Kevin Bright '06*, Eastern New York Chapter

## Featured Speakers and Symposia on Campus

The 2006–2007 academic year was particularly full of guest speakers and symposia touching on a wide array of environmental issues—here are some of the highlights.

### Conferences on Campus



#### Focus the Nation September 30, 2006

A nationwide initiative to educate the country about global climate change got its official start in September at Middlebury College. The effort, called “Focus the Nation,” seeks to coordinate teams of faculty, students and staff at more than a thousand colleges and high schools in the United States, jump-starting a national discussion on the goal of “stabilizing the climate in the 21st century.” The project is designed to culminate on January 31, 2008—in the middle of the presidential primary season—with one-day, national symposia held simultaneously on campuses across the country. About 150 people, including Middlebury students, faculty and staff, were on hand for the day-long session, which included a presentation by event organizer Jon Isham, an associate professor of economics at Middlebury; the official launch of Focus the Nation by project director Eban Goodstein, a professor of economics at Lewis & Clark College in Oregon; organizing sessions and regional meetings for volunteers from secondary schools and colleges throughout the Northeast; and a talk by Elysa Hammond of Clif Bar on her company’s efforts to combat climate change and promote sustainability.

*Eco-visionary, human rights attorney, and powerhouse speaker, Van Jones is one of the most creative and unifying progressive leaders in the United States. Jones is the founder of one of the most innovative racial justice organizations in the United States: the Ella Baker Center for Human Rights (EBC).*

#### Middlebury Energy Symposium February 28–March 3, 2007

This year the Roosevelt Institution (RI), the nation’s first student think tank, is researching potential policies to “reduce our dependence on foreign, harmful, and unsustainable energy.” Middlebury’s chapter of the RI is researching a policy focused on how the federal government could invest in efficient and green construction. In collaboration with the Sunday Night Group and with support from the Environmental Studies Program, they hosted an inspiring energy symposium that included a keynote speech by Van Jones entitled, “The New Dream: Updating MLK’s Vision to Meet Today’s Ecological and Social Challenges;” panel discussions on “Energy: the Politics of Now” and “The International Challenge of Sustainable Energy Development;” a one actress performance of *The Boycott* by Kathryn Blume; and a student policy idea competition. For more details see [www.energysym.com](http://www.energysym.com).



#### 2007 Scott A. Margolin '99 Lecture in Environmental Affairs

Barry Lopez—Essayist and Nature Writer  
Thursday, April 12, 2007  
*“The Wild Road to the Far North”*

Barry Lopez is recognized as one of the leading essayists of our day. His writing combines a knowledgeable appreciation for indigenous cultures with a commitment to wildlife and sustainable communities. In addition to his best-known nonfiction book *Arctic Dreams*, for which he won the National Book Award in 1986, Lopez has published collections of essays and stories, a memoir, novels, and books for young readers.

He has received the Literature Award from the American Academy of Arts and Letters, the John Burroughs Medal, a Guggenheim Fellowship, and National Science Foundation and Lannan Foundation fellowships.

Lopez dedicated his lecture to John Elder and the spirit of teaching and activism he was exposed to during his visit to Middlebury, which in addition to attending several classes included an evening discussion with students, faculty, and staff from both Middlebury and the University of Vermont—as well as the editor and publisher of *Orion* magazine—that was entitled, “Listening

to the Voices of Youth.” Lopez was keenly interested in hearing the stories of college-aged students and their creative responses to the environmental, cultural, spiritual, and political challenges of our day.

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practice of reverence is what keeps him hopeful when it is hard to be optimistic.

## Featured Speakers and Symposia on Campus

The 2006–2007 academic year was particularly full of guest speakers and symposia touching on a wide array of environmental issues—here are some of the highlights.

### Reflections on a House of One Room

#### An environmental series to accompany the Middlebury College Museum of Art spring exhibition: Robert Adams Turning Back—A Photographic Journal of Re-exploration

Co-sponsored by Environmental Studies (<http://www.middlebury.edu/arts/museum/exhibitions/>)



Robert Adams, Clatsop County, Oregon. From the portfolio *Turning Back, A Photographic Journal of Re-exploration, 1999–2003*, gelatin silver print. Collection of the Middlebury College Museum of Art. © Robert Adams

**Terry Tempest Williams**, Annie Clark Tanner Fellow, Environmental Humanities Program, University of Utah. “*Mosaic: Finding Beauty in a Broken World*”

“As I’ve lived with his work [Adams’] over the last few months anticipating this, these were the echoes that I would want to share with him as we both live and work and struggle with the hard edged realities of the American West that we both love so much, that we both struggle with and have devoted ourselves to, to try to find that ethical stance toward life and what it means to live in place. In truth, we’re all displaced, we are all complicit in the ongoing consumption and destruction of this beautiful blue planet we call Earth, but I believe it is our attempt to right our wrongs that perhaps matters most, especially now, and that will ultimately lead to a climate change, a change of heart, a balancing not only of the Earth’s energy, but our own.”

—Terry Tempest Williams

**John Huddleston**, Professor of Studio Art, Middlebury College.

“*Robert Adams: Turning Back*,” a Gallery tour.

**Jared Diamond**, Pulitzer Prize winning author. “*Will Our Society Collapse?*”

**Bjorn Lomborg**, author of the bestselling *The Skeptical Environmentalist*. “*Global Warming: Interpreting the Facts*”

**Bill McKibben**, Middlebury College Scholar in Residence in Environmental Studies. “*The Arts and the Environmental Crisis*”

### Events co-sponsored by ES Program and/or Environmental Affairs 2006–2007

**October 13, 2006**, *Environmental Issues and Actions in China Today* by Lila Buckley ’04, Global Environment Institute, Beijing; Elisabeth Grinspoon ’90, Resource Planning and Monitoring, USFS Northwest Region; Daniela Salaverry ’03, Pacific Environment; and Alexandra Wang ’03, China Sustainable Energy Program, The Energy Foundation.

**October 19, 2006**, *Feeding the World’s Most Populous Country: Organic Agriculture in China* by Lila Buckley ’04, Global Environment Institute in Beijing.

**October 20, 2006**, *Chemical and Physical Properties of Urban Aerosol Particles* by Dr. Keith Broekhuizen, Assistant Professor of Chemistry at Colgate University.

**October 30, 2006**, *Media and the Environmental Crisis* by Steve Curwood, Executive Producer and Host of National Public Radio’s award-winning weekly environmental news program “Living On Earth.”

**November 14, 2006**, *Environmental Justice from a Native Perspective* by Winona LaDuke, a Native American activist, environmentalist, economist, and writer.

**November 28, 2006**, *The China Challenge: Transboundary Environmental Issues in International Relations* by Judith Shapiro, Director of the Global Environmental Politics Programs at the School for International Service at American University.

**January 18, 2007**, *Global Warming in the U.S. Court* by Ronald A. Shems, Attorney at Law, Shems, Dunkiel, Kassel & Saunders.

**January 26, 2007**, *Ecology and the Christian Imagination* Symposium with talks by Robert Siegel, Matthew Dickerson, and David O’Hara.

**February 21, 2007**, *Shopping—A Love/Hate Relationship: On the Politics, Pleasures, and Pitfalls of the Market* a public conversation with authors Judith Levine and Bill McKibben.

**March 7, 2007**, *Architecture and...* by James Cutler of Cutler Anderson Architects, nationally known for environmental awareness and attention to detail.

**March 15, 2007**, *What Might Work? Creating a Portfolio of Climate Solutions*, a public conversation with Ruth Greenspan Bell, Resources for the Future.

**April 20, 2007**, *The FutureGen Project—How to use a conventional fuel (coal) in an unconventional way* by Gretchen Hund ’79, Senior Staff Scientist at the Pacific Northwest National Laboratory.

**April 27, 2007**, *Brave New Ocean* by Dr. Jeremy Jackson, William E. and Mary B. Ritter Professor of Oceanography at Scripps Institution of Oceanography and Senior Scientist Emeritus at the Smithsonian Tropical Research Institute.

## Student Awards, Internships, Independent Study Projects, and Theses

### 2006–07 Awards

The 2007 Margolin Award, given annually to an outstanding senior Environmental Studies Major was awarded to: Mike Gleason '07 (ES/Geology).

**Carolyn Barnwell '07** received a 2006 Carrie Hunter-Tate Award from the National Association of Student Anthropologists (NASA), which is the student component of the American Anthropological Association, for her research on organic rice communities in Thailand.

**Carolyn Barnwell '07** and **Dalal Al-Abdulrazzak '07** were two of three Middlebury College students who were awarded Watson Fellowships in 2007. The prestigious Thomas J. Watson Fellowship program funds a year abroad to pursue and in-depth innovative project. Their respective project titles are “Islands of Justice: Rising Seas and Climate Refugees in Oceania,” and “Elasmobranchs Endangered: The Impact of Shark and Ray Conservation Efforts.”

### 2007 Theses

**Dalal Al-Abdulrazzak '07**, “Distribution of U.S. Marine Protected Areas Across Levels of Protection”

**Carolyn Barnwell '07**, “Organic Solidarity: The Hybrid Discourse and Practice of Alternative Agriculture in Northeast Thailand”

**Annie Christopher '07**, “A Climate Change History of 4 Bays on the Antarctic Peninsula”

**Ayesha Dinshaw '07**, “The Quest of Environmental Travel Literature: Nature and Self in Modern Travel Narratives”

**Mike Gleason '07**, “Occurrence of and Lithologic Controls on Naturally Occurring Radioactivity in Groundwater, Northern Half of the Knox Mountain Pluton, Vermont”

**Devi Glick '07**, Environmental Security in a Changing National Security Environment: Divergent Policy Interests with the United States, Cold War to Present

**Lindsey Franklin '07**, “Responses of the Middlebury Faith Community to Environmental Concerns and Global Climate Change”

**Laura Kuhl '07**, “Losing a Stigmatized Commons: Identity and community solidarity for concheros in San Felipe, Ecuador”

**Ross Lieb-Lappen '07**, “The Influence of Surface Roughness on Air-water Interfacial Areas in Porous Media”

**Elsbeth Pierson '07**, “An Explication of Home”

**Colleen Sullivan '07**, “Evaluation of a Potential Ultramafic Source of Arsenic Contamination in Bedrock Water Wells in Central Vermont”

**Karen Stahlheber '07**, “Sheep Grazing and Scrub Oak Management on Nantucket, MA: Using Photomonitoring to Assess Impacts”

### 2006–07 Independent Studies

**Bryce Connery '07**, “Environmental Writing”

**Logan Duran '08**, “No Money? ... You Die.” World Poverty: Causes and Solutions

**Jamie Henn '07**, “Community Action on Global Warming”

**Ian Hough '07**, **Chester Harvey '09**, **David Dolginow '09**, **Hannah Day '09**, “Middlebury Algae Project”

**Patrick Johnson '07**, “Analysis of spring arrival dates of migratory birds to Vermont from 1974–2006”

**Elizabeth Kelley '10**, “Designing and Constructing a Photobioreactor”

**Jason Kowalski '07**, “A New Greenhouse Gas Emissions Monitoring and Reporting System for Middlebury College”

**Taylor Long '07**, “Population modeling of Leatherback Turtles with temperature-dependent hatchling sex ratios in a warming world”

**Jennifer Schneider '07**, “Exploring Biodiesel: Ethics, Economics, and Energetics and Swanton, VT”

**Anna Viel '07**, “Browsing Damage on Red Spruce and Balsam Fir Along an Elevational Gradient: Could Herbivory Be Affecting the Lower Limit of the Spruce-fir Zone?”

### 2006–2007 INTERNSHIPS

Emily Adler '07	Mad River Glen Cooperative
Allison Bard '08	Community Energy
Zoey Burrows '07	Earth Island Institute
Lilly Corenthal '10	Student Conservation Association
Clare Crosby '09	Save Our Springs Alliance
Natasha Groblewski '09	Bright Planet
Jenny Hamilton '07, Matt Johnson '08 and Lizzie Torkelson '07	Catamount Trails Association
Ian Hough '07	Colorado State University
Makely Lyon '07	Oregon Environmental Council
Abigail Mayer '09	Maine Conservation Corps
Kelly Nichols '09	The Nature Conservancy
Maegan Olivos '07	City of Rockville Public Works
Hannah Panci '08	Institute for Bird Populations
Shane Spinell '08	Rentricity
Colleen Sullivan '07	Industrial Economics, Inc.
Emily Wheeler '07	Bright Card
Patrick Woolford '07	Seattle Audubon Society

*12 students interned with the Student Sierra Coalition during Winter Term 2007 to draft a plan for carbon neutrality for Middlebury College, which was presented to the Trustees in February and approved in May. Additionally, they developed a “toolkit” that college students elsewhere can use in their pursuits of carbon neutrality and that was shared at a climate change summit they hosted in mid-January.*



## Alumni in Action

### Daniela Salaverry '03

*China Program Co-Director, Pacific Environment*

**D**aniela has a multi-dimensional background, having studied Chinese, Environmental Studies, and Geology at Middlebury. She currently co-directs Pacific Environment's China Program with the overall objective to provide capacity building support to China's grassroots environmental groups. She has traveled extensively in China and East Asia for over a decade, including studying Chinese in Harbin during her junior year abroad, conducting geological research on the Tibetan Plateau for her Geology senior thesis, and traveling the Silk Road as a course instructor for "Where There Be Dragons."

Having lived in Asia and studied Chinese while in high school, she saw Middlebury as a great opportunity to continue studying the language, and enrolled in Chinese as a freshman. Despite her interests in Asia and Chinese language, she was keen on pursuing a major in Geology—as an avid outdoors person she wanted to learn more about the earth and her natural surroundings. She then paired Geology with Environmental Studies to expand beyond the realm of "pure science" and to gain exposure to "big-picture thinking." This was a challenging path, balancing Chinese language classes that met up to seven times a week with lab classes from both ES and Geology, and fulfilling requirements in time to study abroad. Upon reflection though, she wouldn't have done things differently. "I'd probably just change my attitude. I spent a lot of time stressing out about being on a track, where now I realize that a career is an evolution that changes with experiences and time."

In Harbin, Daniela engrossed herself in language courses, lived with a Chinese roommate and was completely dedicated

to improving her speaking ability. "It was formative for my understanding of China and my ability with the language, but left me rusty in ES & Geology!"

After Harbin, she took the summer to travel across China solo and immersed herself in the country's natural heritage and environmental struggles. Her travels found her in the biodiversity-rich Southwest China province of Yunnan, traveling by boat down the controversial Three-Gorges stretch of the Yangtze River, walking the crowded and polluted city streets of Hong Kong and Beijing, exploring karst formations in Guangxi, and hiking the sand dunes of the Gobi. In the midst of these adventures were "two of my most memorable weeks in China...a dream experience, connecting everything I loved."

During those two weeks Daniela traveled with Jeff Munroe—Assistant Professor of Geology and ES Faculty Affiliate—to the Tanggula Shan region of the Tibetan Plateau, where she began her senior thesis research. This exerting work (base camp was at 16,000 ft.) was paired with GIS analyses of satellite imagery back at Middlebury to document glacier recession. "I felt really lucky to be able to culminate my studies in such a synthesized way, bringing together my passions for China, geology and environmental studies."

After graduation, Daniela spent two years working for The Nature Conservancy in New York in fundraising & communications to engage communities in local conservation efforts. While on sabbatical from TNC, she worked with Where There Be Dragons, a travel company that emphasizes local experiences. She led the Silk Road Program which involved 6 weeks of travel from Kashgar to Beijing, including homestays, service projects, language study and an in-depth social, cultural and environmental survey of developing China. This experience reinforced her desire to reconnect to

China. "The growth of China is undoubtedly going to shape the environmental future of our world. Since I had experience there and I spoke the language, it was a natural next step for me. This led me to Pacific Environment."

Pacific Environment (<http://www.pacificenvironment.org/>) is a San Francisco, CA based environmental organization whose mission is to protect the living environment of the Pacific Rim. PE has been working in China for the past 5 years, with the objective of supporting the development of China's nascent environmental movement, which has slowly been emerging over the past decade in response to "breakneck" industrial and economic growth. Daniela's work includes supporting the development of China's environmental NGOs through capacity building, and assisting China's environmental movement by developing partnerships with other international NGOs with interests in China.

"In Chinese, there is a term—Guanxi—it means relationships and networks. I'm a huge supporter of building strong networks, and being part of the ES/Middlebury community as an alumnae has really helped me both professionally and personally. I'm so delighted to connect current Middlebury students with China's student environmental groups to enhance both sides' ability to achieve their individual, and mutual, environmental goals."

On reflecting on her work, Daniela shared several words of wisdom. "When dealing with protecting the environment, you are dealing with life-long endeavors that require sustained effort...It might take years, or even decades to see major results, but the work I'm doing now is an important part of a process, which is initial support. One day, these Chinese environmental groups will be mature and truly have an impact on their country, and the world, and I'll know that I was part of that at the beginning."

*Daniela participated in a panel discussion on Environmental Issues in China in the Fall of 2006. See page 7 for more details on this and other guest lectures on China. See page 10 for several service-learning projects and opportunities related to China.*

## Service-Learning in Environmental Studies

In December 2006, Middlebury was selected to be recognized under BOTH the “Curricular Engagement” and “Outreach and Partnerships” categories of the new Community Engagement Classification by the Carnegie Foundation for the Advancement of Teaching.



The Middlebury College environmental partnership with the Middlebury College Snow Bowl was recognized as a finalist for the **Campus/Community Partnership Award**. Middlebury junior Clayton Reed and 2006 graduate Thomas Hand made a presentation to the Vermont Campus Compact Board of Directors and state legislators about

how their work in undergraduate service-learning courses helped the Snow Bowl to become a carbon neutral facility.

### Service Learning Steps Become a Stairway to International Involvement

ES students have been working with ECOLOGIA, a Middlebury based international environmental organization, for several years. In the fall of 2005 students, in the senior seminar focused on corporate social responsibility (CSR) and worked with ECOLOGIA as a community partner with Vermont connections. One of the participants in the class, **Kat Cooley '06**, made the leap

from CSR in Vermont to CSR in China. Kat now works in ECOLOGIA's office in Chengdu China to promote sustainable development. Her work is supported by an Oxford University based program, the World Leadership Corps (WLC). The WLC is coordinated locally through Peggy Burns, who also works in the College's Alliance for Civic Engagement (ACE) office. ACE and ECOLOGIA have been working together to help students find opportunities for global community involvement through J-term Workshops in 2006 and 2007. Students attending these workshops have: traveled to workshops and conferences on international topics, spent summers interning in China, spent their first post graduate year in the Dominican Republic working at Alta Gracia which produces Fair Trade coffee and promotes sustainable agriculture and education for young women, and have formed a China Working Group to provide opportunities for students to be involved in ECOLOGIA international programs in China. **Meg Young '07, and Kate Leyland '07** will be joining Kat Cooley in Chengdu in the fall of 2007 to launch a micro-finance project promoting the principles of the Earth Charter, also supported by the WLC. After they finish their year of service abroad, they will spend a year at the Monterey Institute of International Studies earning an MA in International Policy. Service learning at Middlebury is becoming a continuous thread linking course and volunteer work, career and service opportunities, classroom theory and real world practice, and undergraduate work at Middlebury with graduate studies at Monterey.

—Randy Kritkauskay, *President Ecologia Middlebury College Environmental Scholar*

#### ES 401 Senior Seminar Projects

##### Fall 2006 (*Nadine Barnicle*)

With a focus on *Healthy Local Communities*, students worked with Vermont Family Forests to develop a model for, and gauge local support for, a sustainable firewood program modeled after community supported agriculture programs; the Addison County Solid Waste District to help them move towards a Zero Waste ideal; and with the Northeast Organic Farming Association-VT and Integrated Energy Solutions to develop recommendations for energy efficiency improvements and renewable energy applications for local farms.

##### Spring 2007 (*Nadine Barnicle*)

Partnering with the Vermont Air Pollution Control Division, the American Lung Association of Vermont, and People for Less Pollution, students tackled some of the unintended health consequences of alternatives to fossil fuels—specifically wood burning in Outdoor Wood Boilers (OWBs). Students were immersed in the political process of new OWB regulations, connected

these three very important stakeholder groups, and provided community resources for proper OWB use.

##### Spring 2007 (*Jon Isham*)

Under the theme of *Global Civil Society*, students partnered with community groups working internationally to identify the role of civil society in addressing three major challenges—energy and climate change, resource use, and rural poverty. Project partners included Lila Buckley '04 of the Global Environment Institute, Beijing, Gretchen Hund '79 in her role as communications liaison for the FutureGen Alliance, and local social entrepreneur Allan Baer and his colleagues at the Millennium Institute.

##### Winter Term 2007

##### *Jon Isham and Eban Goodstein*

Students in *Focusing the Nation on a Clean-Energy Future* had the opportunity to design the strategy for “Focus the Nation,” a major new educational initiative designed to help stabilize the climate in the 21st Century.

Projects included a star-studded video on how to take action on your campus, building the movement through new MySpace and Facebook pages, creating national awards (The Focus Awards) to recognize leaders in the climate change movement, and the Alumni Climate Commitment to engage alumni from colleges and universities across the country.

#### EC 265—Environmental Economics

##### Spring 2007 (*Jon Isham*)

Student projects focused on the theme of *Planning for a More Sustainable Addison County* and included work with a variety of community partners including area K-12 schools, affordable housing providers, the regional planning commission, the Middlebury Business Association, local biofuels and renewable energy associations, and a local apple orchard.

*More information on service-learning projects can be found at: <http://www.middlebury.edu/academics/ump/majors/es/courses/service/>*

## Faculty and Staff News

### Molly Costanza-Robinson

(ES/Chemistry) has presented several posters on techniques for high resolution imaging of soils and soil contamination, brought Middlebury ES-chemistry students to Argonne National Laboratory to conduct imaging experiments, and recently co-authored a chapter on gas-phase dispersion in soils. Molly is excited to be teaching her new Environmental Chemistry course.

**Matthew Dickerson** (Computer Science) has co-authored a new book titled *Ents, Elves, and Eriador: the Environmental Vision of J.R.R. Tolkien in the Culture of the Land* series with the University Press of Kentucky. He has also developed a new course (CSCI190) on “Computer Models and Environmental Simulation,” taught for the first time in Fall of 2006.

**John Elder** (ES/English) has been on sabbatical in 2006–2007, writing about the relationship between sugaring and climate change. During this year he has also co-written an essay on Robert Frost’s ecological insights with the biologist Glenn Adelson and published another piece on the importance of poetry in Rachel Carson’s *Silent Spring*.

**Rebecca Gould** (ES/Religion) has written a new book chapter—“Binding Life to Values” (on religiously-based environmental activism) in Jon Isham’s book *Ignition*.

**Chris McGrory Klyza** (ES/Political Science) published a second article on the greening of social capital in Vermont. The article in *Society and Natural Resources* was coauthored with Jon Isham and Andrew Savage ’03.5.

**Andi Lloyd** (Biology) received an NSF grant from the Office of Polar Programs to support a research project investigating how recent climate warming has affected the growth of boreal forest trees with Dr. Andy Bunn at Western Washington

University. In the first year, it will involve re-analysis of a large collection of existing tree-ring data. In summer 2008, she will head out on a field expedition to the Lena and Kolyma rivers in northeastern Siberia to core more trees! Any Russian-speaking students (ideally; those who don’t speak Russian but have the right spirit of adventure are welcome, too) with an interest in ecology and/or climate change who might be interested in joining the field crew should contact Andi anytime (lloyd@middlebury.edu).

**Jeff Munroe** (Geology) spent another summer with a Middlebury student in the mountains of Utah and Nevada, coring lakes and mapping glacial deposits to reconstruct past climate changes. In Vermont, he supervised a second student studying climate records from lakes in the Northeast Kingdom, and expanded his project with John Elder investigating the connection between bedrock geology and the flavor of maple syrup. The latter project has garnered considerable attention, including an article in the *New York Times* in December 2006, and the student involved (Lee Corbett ’07) presented an overview of the work to Vermont’s congressional delegation at the Posters on the Hill symposium in Washington D.C. in April.

**Andrea Olsen** (Dance) created *Tribute*, an hour-long environmentally-focused dance with original music by Philip Hamilton ’82 and video by Jim Bruce ’96 with the Dance Company of Middlebury and for solo touring; edited two feature issues on “Place” for *The Contact Quarterly*; taught residential Body and Earth retreats in Wales and Switzerland; and celebrated the successful completion of a 342,000-acre conservation project in Maine with the Downeast Lakes Land Trust—an organization that hosted eight Middlebury-funded ES/Arts interns over six years (see *Middlebury Magazine* 2002).

**Michael Sheridan’s** (Soc/Anthro) co-edited volume, *African Sacred Groves*, is being published in Sept. 2007 by James Currey Press. He is currently working on another book about the political ecology of environmental management in rural Tanzania. In October 2006 he traveled to Tanzania (and back... all in one week) to present a paper on ethnobotany and land tenure in sub-Saharan Africa.

**Steve Trombulak** (ES/Biology) continues to teach environmental science (ES 112) as well as conservation biology (BI 392) and natural history (BI 302). He is also in his fifth year as director of the Science Working Group for Two Countries, *One Forest*, a confederation of conservation organizations in the Northern Appalachians, which is developing and implementing a regional science-based conservation strategy. Last year he also completed 10 years of service on the board of the Society for Conservation Biology, most recently as President of the North American Section.

**Rich Wolfson** (Physics) produced a 12-lecture course for The Teaching Company, entitled “Earth’s Changing Climate.” It was released in February, and is available in video and audio formats.

**Helen Young** (Biology) published a paper on bee foraging patterns on flow-ers of jewelweed with Dan Dunning ’06 and Kyle von Hasseln ’06, presented research with Kristen Pelz ’06 on habitat fragmentation and bee communities at the Mexican Ecological Society and at a conference focused on Evolution in human-altered environments. Helen visited a new field station on the Pacific Coast of Costa Rica in May 2007 (with Pete Ryan and Sallie Sheldon) to help design research projects for undergraduates, funded by the Mellon Foundation. She is also planning a new course for the spring of 2008—Ecology and Evolution on Islands.

### New Faculty

Nicholas Muller is completing his Ph.D. in environmental economics at the School of Forestry and Environmental Studies at Yale University. His dissertation focuses on the specific costs and benefits of air pollution in different locations of the United States, using climatology, epidemiology, and economics to help better target the implementation of the Clean Air Act. Muller will be an assistant professor of economics who will teach several courses each year in support of the Environmental Studies Program.

### Faculty Books

*Deep Economy: The Wealth of Communities and the Durable Future*

Bill McKibben

Times Books, March 2007

*Ignition: What You Can Do to Fight Global Warming and Spark a Movement*

Co-edited by Jonathan Isham (Economics/ES) and Sissel Waage

Island Press, June 2007

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